

Model No.

OS-100-TW

100W Indoor/Outdoor Loudspeaker

• For indoor or protected (covered) outdoor use

For commercial or residential use, two-way music speaker provides excellent sound reproduction at 8ohms, 25V, 70V or 100V.

Features

- Compact assembly with 100W power rating meets specifications for high quality indoor/protected (covered) outdoor music applications.
- 6.5" mica coated woofer with rubber surround and 1" silk domed tweeter for accurate sound reproduction.
- Molded plastic housing with weather-resistant terminal cover and fine mesh aluminum grille. White finish.
- Factory-installed, adjustable U-bracket with 90 degree (horizontal/vertical) rotation allows easy surface installation to a single gang EO box. The housing's 1/4"-20 threaded mounting points on 3" centers allow use of AVLELEC omni-directional bracket Model OS-BRKT-W (order sep-arately) or Adaptive Technologies MM-008-BT (order elsewhere).
- 100W power rating with frequency response of 97Hz-20kHz ± 6 dB and average sensitivity of 87.8dB measured 1W1M.
- Connections are made using stranded wire (up to 14 gauge) to a removable 4-conductor Phoenix connector, which is protected by a weather-resistant terminal cover and rubber grommet that can be removed if larger wire sizes are used.
- Rear of speaker features an 8ohm/transformer selector switch. The screwdriver-adjustable switch allows for direct 8ohm or distributed 25V, 70V or 100V tap positions.

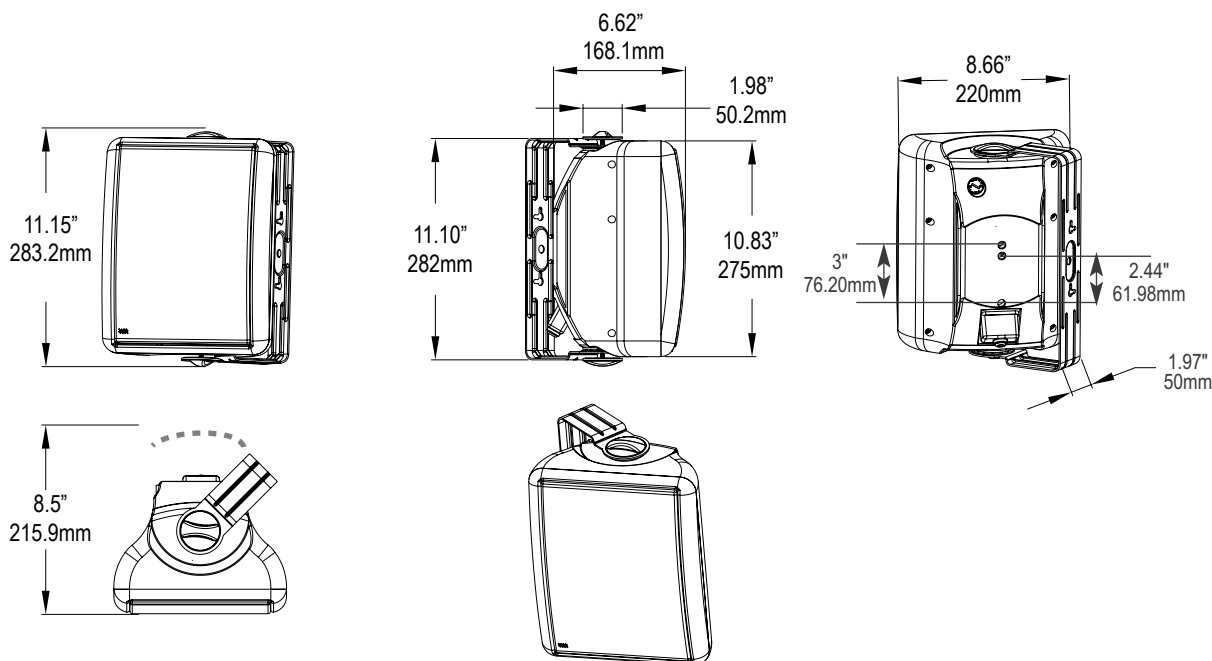
A&E Specifications

The speaker for indoor/protected outdoor (covered) foreground music application shall be AVLELEC Model OS-100-TW. The speaker shall have a 6.5" mica coated woofer with a 1" silk domed tweeter. It shall have a 100W power rating with a screwdriver-adjustable switch for direct 8ohm or distributed 70V, 25V or 100V application. It shall have a frequency re-sponse of 97Hz-20kHz ± 6 dB and a sensitivity of 87.8dB measured



1W/1M. Housing shall be molded plastic with a fine mesh aluminum grille with white finish. The assembly shall include an adjustable U-bracket for vertical or horizontal installation and shall feature slots for mounting to a single gang E.O. box. Each speaker shall measure 10.83"H x 8.66"W x 6.62"D (without bracket), 11.15"H x 8.66"W x 8.5"D (with included bracket) and weigh 7.35 lbs. Housing shall be equipped with 1/4"-20 threaded inserts on 3" centers to accept AVLELEC omni-directional bracket Model OS-BRKT-W (order separately) or Adaptive Technologies MM-008-BT bracket (ordered elsewhere).

Model/Number Summary		Dimensions	Color	Assembly Wt. (lbs)
OS-100-TW	Indoor/outdoor speaker with U-bracket	11.15"H x 8.66"W x 8.5"D (with bracket)	White	7.35
<i>Optional</i>				
OS-BRKT-W	Omni-directional bracket		White	2



PERFORMANCE

Power Handling	100 watts RMS measured per EIA Standard RS-426B at 8ohms
Sensitivity	87.8dB SPL (avg) measured 1 Watt at 1 Meter 107.8dB SPL (max) calculated 100 Watts at 1 Meter
Frequency Response	97Hz - 20kHz (+6dB)
Impedance	8 ohms (nominal), 7.3 ohms @ 244Hz (minimum) Impedance readings expected from typical 1kHz impedance Meter: Switch setting A: 105 ohms Switch setting B: 210 ohms Switch setting C: 420 ohms Switch setting D: 840 ohms 8 ohm setting: 12.8 ohms
Conical Dispersion	120 degrees conical @ 2000Hz octave (-6dB)
Speaker Spacing	To determine speaker spacing, see the technical paper " <i>Distributed System Speaker Spacing for the Integrator</i> " available for free download at LowellMfg.com. An online spacing calculator is also available.

DRIVERS

Woofer	6.5" mica coated with rubber surround
Tweeter	1" silk domed

CABINET MECHANICAL

Cabinet Housing	Molded plastic, white
Cabinet Grille	Fine mesh aluminum painted white
U-Bracket	Aluminum painted white
Input Terminals	Phoenix type connector with weather protective boot. (14AWG stranded wire max.)
Dimensions (not including bracket)	10.83"H x 8.66"W x 6.62"D (275mm x 220mm x 168.1mm)
Dimensions (including bracket)	11.15"H x 8.66"W x 8.5"D (283.2mm x 220mm x 215.9mm)
Weight (each)	Net Weight: 7.35 lbs. (3.33kg) Shipping Weight: 8.60 lbs. (3.90kg)
Carton Qty	Packed in single cartons

TRANSFORMER

Tap	25V line	70V line	100V line
A	7.5W	60W	Do not use
B	3.8W	30W	60W
C	1.9W	15W	30W
D	0.94W	7.5W	15W

Scope of Performance and Power Tests

AVLELEC loudspeaker drivers and loudspeaker systems are thoroughly tested to provide specifiers and contractors with solid data that accurately reflects the performance of the production products. Performance tests are conducted on randomly selected final production assemblies. Testing equipment includes the GoldLine TEF-20 analyzer.

Power Handling capability is tested based on EIA Standard RS-426B.

Frequency Response data is provided which is the measured generally usable frequency response range (defined by ± 6 dB) that is useful in predictive engineering calculations.

Sensitivity (SPL) data is presented in two ways: Average SPL is a computer calculated log average of the SPL over the stated frequency response. Max SPL is based on the 1 watt 1 meter measured value of the SPL and the calculated max SPL at the maximum power rating of the driver.

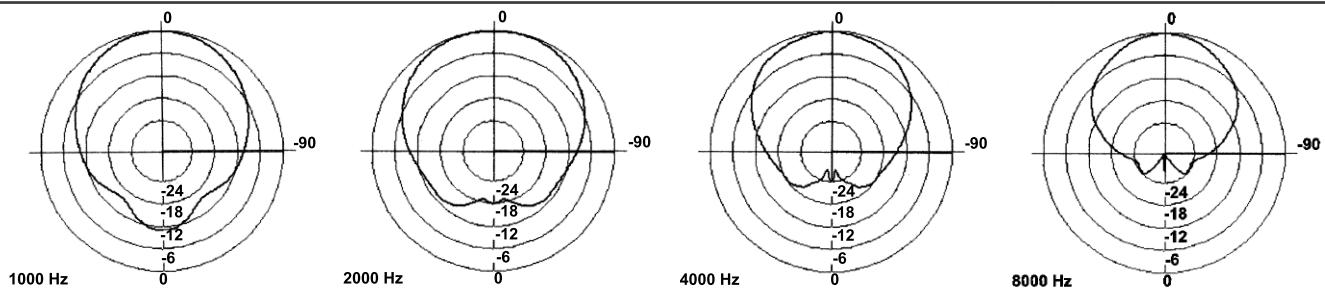
Dispersion Angle is defined as the angle of coverage that is no more than 6dB down from the on-axis value averaged over the 2000Hz octave band. Since speech intelligibility is very dependent upon the 2000Hz octave, this specification is quite useful in designing speech reinforcement systems that

provide even coverage and speech intelligibility.

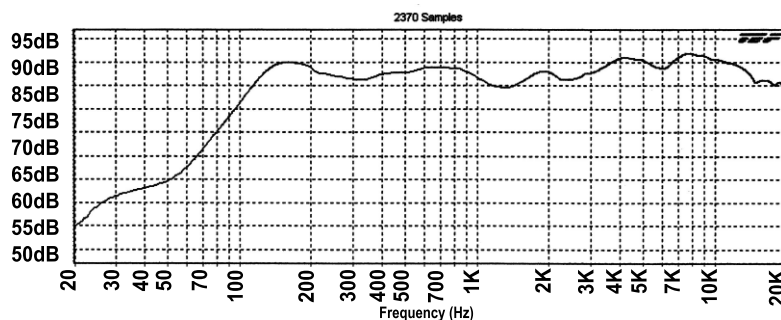
Impedance data is presented in three ways: Nominal Impedance is the generally accepted impedance for use in making comparisons with competitive products. The Impedance Curve is a graphical representation of the impedance that is measured in the lab and gives the impedance of the device over the audio frequency range. Minimum Impedance is the lowest impedance measurement at a frequency within the specified frequency response of the speaker. If a line matching transformer is included in the speaker assembly, relative impedance curves of the primary windings of the transformer when loaded by the driver may be shown.

Polar data is presented for both Horizontal and Vertical orientation of two-way speakers that incorporate separate low frequency and high frequency drivers. It depicts the averaged one octave band surrounding the center frequencies of 1000Hz, 2000Hz, 4000Hz, and 8000Hz. Radial polar response curves show the relative change in sound pressure level as one moves from directly on-axis to an increasingly off-axis listening position.

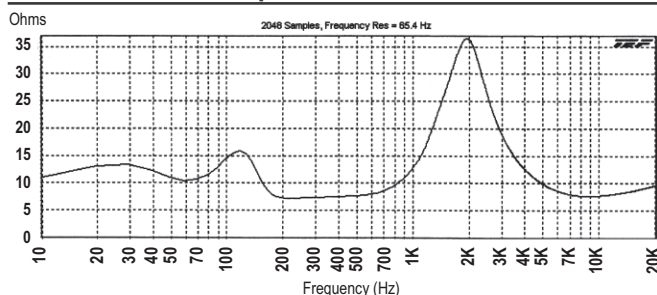
Polar Data



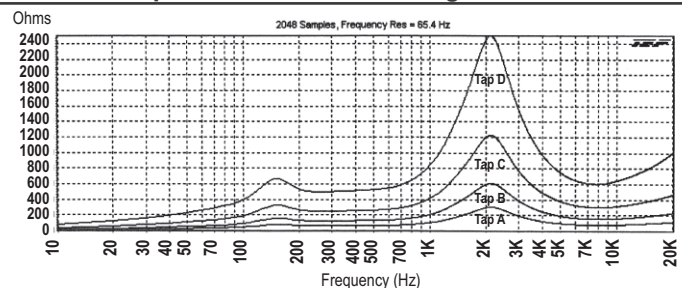
SPL vs. Frequency 1W/1M



Impedance—8ohm



Impedance—switch settings A-D



Mounting Methods

Installation with U-bracket (Speaker Model OS-100-TB shown)



Vertical



Horizontal

Included U-brackets are equipped with mounting slots that line up with a single gang outlet box and provide vertical or horizontal mounting.

Installation with optional bracket

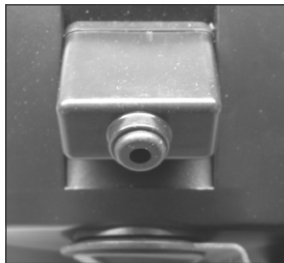


Threaded 1/4"-20 inserts (3) on rear allow other types of brackets to be mounted.



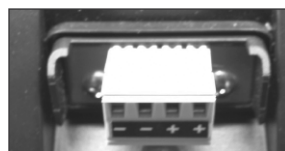
AVLELEC bracket
Model OS-BRKT-W

Connections



Weather-resistant Terminal Cover

Incoming wire enters through the weather-resistant terminal cover and is protected by a rubber grommet. Maximum recommended wire size is 14AWG stranded. Note: Grommet may be removed if larger wire sizes are used.



Labor-saving Phoenix Connector

Wiring connects to the 4-conductor removable Phoenix-type connector. Parallel dual "+" and "-" terminals are provided to terminate incoming and outgoing wiring.



8-ohm / transformer selector switch (Model OS-100TB shown)

When the selector switch is in the 8-ohm position, the transformer is disconnected internally and the speaker power rating is 100W. When the switch is in the A-D positions the speaker power is determined by the driving voltage as shown in the table on the rear of the speaker and in the chart below.

Tap	25V line	70V line	100V line
A	7.5W	60W	Do not use
B	3.8W	30W	60W
C	1.9W	15W	30W
D	0.94W	7.5W	15W